DOCUMENT RESUME

ED 048 011 SE 010 978

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TITLE	Teaching Units on Drugs, Grades 4, 5, 6.
INSTITUTION	Horseheads Central School District 1, N.Y.
PUB DATE	70
NOTE	12p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	*Drug Abuse, *Health Education, Instruction, *Intermediate Grades, Resource Materials, *Resource Units, Teaching Guides, Units of Study (Subject Fields)

ABSTRACT

Drugs--their use and abuse--are presented in this resource unit for grades four, five, and six. One of three units on drugs, alcohol, and smoking, this guide for teachers outlines information about drugs in general, what they are, the purpose of drugs, common drugs found in the home, and harmful effects of drug abuse. A local bibliography on drug use and abuse is also included. (BL)

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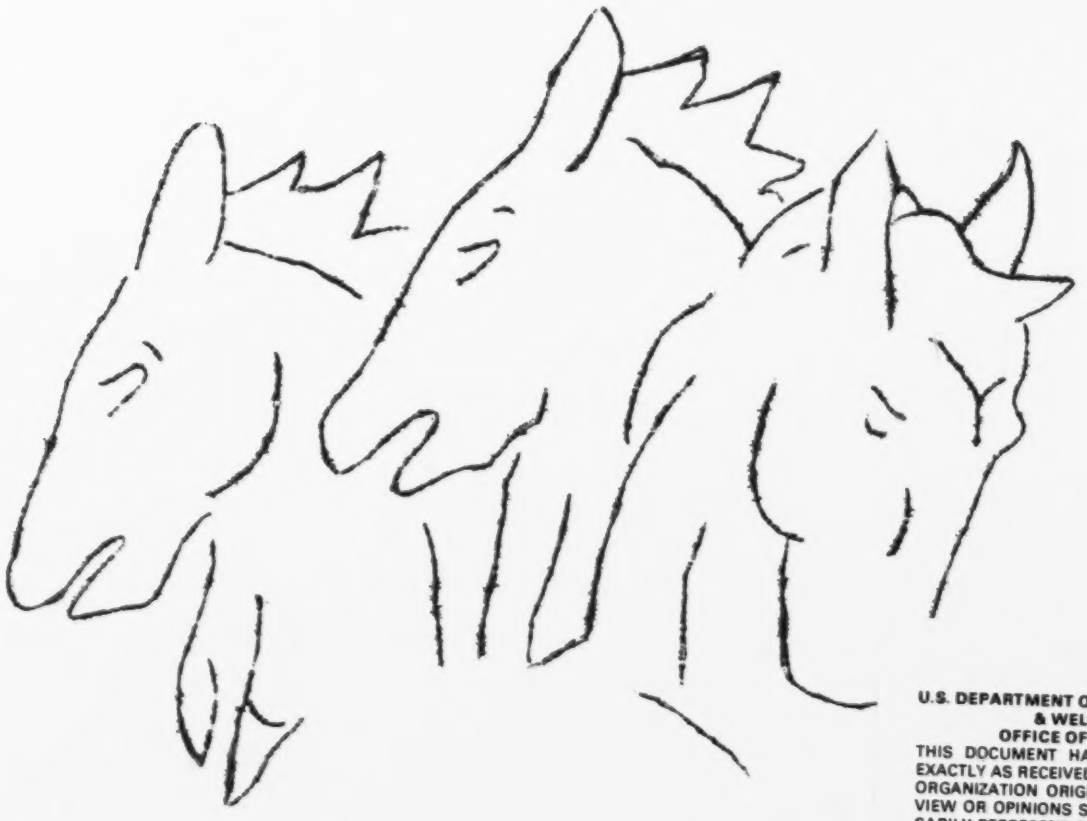
HORSEHEADS CENTRAL SCHOOL DISTRICT



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Teaching Units on Drugs

Grades 4,5,6.

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DRUGS-----USE and ABUSE

A Teaching Resource Unit

CONTENT

I WHAT ARE DRUGS ?

II FOR WHAT PURPOSE ARE DRUGS USED ?

III COMMON DRUGS FOUND IN THE HOME

IV HARMFUL EFFECTS OF DRUG MISUSE

Helen M. Murphy, S.N.T.
Broad Street School

CONCEPTS

Pupils should:

1. Understand the purpose for drug use.

2. Appreciate the role of drug use to alleviate disease and pain.

3. Know and understand the basic differences among drugs.

4. Realize the potency of drugs and the results of their misuse.

I. WHAT ARE DRUGS?

A. Know the difference between prescription and non-prescription drugs.

1. Prescription drugs are those for which a Doctor needs a special license to dispense or order by prescription.

They should be consumed only by the specific person for whom intended.

2. There is a difference in content and strength of drugs.

Dosage recommended for infants or children will differ from that prescribed for adults.

3. There is a difference in the amount per dosage prescribed dependent on the patient's specific needs.

Some drugs are prescribed according to the patient's weight, activity, age, duration of illness etc.

4. Children require lesser amounts than adults.

5. Drugs may become concentrated and harmful if allowed to stand unused for long periods of time.

6. Some drugs are affected by temperature and light.

7. Some lose potency when allowed to stand unused for long periods of time.

THE MEDICINE CABINET

1. Should be kept locked.

Children should not have access to drugs because they do not know about their harmful effects nor do they know safe dosages. If unable to read or interpret labels properly they could become poisoned or very ill.

2. Children should not take medicine which is not specifically recommended or prescribed for them. They can also become dependent thereby forming a bad habit or they could become ill from harmful effects.

3. Children should be made to realize that medicine is not candy. They should not be fooled into thinking it tastes good; rather that it will make them better.

4. Children should be reminded constantly not to put strange liquids or pills into their mouth.

*Use transparency (Mother, child, medicine cabinet)

SOLVENTS ARE DRUGS

Any chemical substance can be classified as a drug. We are prone to over-look the greatest dangers to children or irresponsible persons. These are the chemicals which are in routine use in our daily experiences.

1. Children should be discouraged from using chemical sprays or lacquers because they are unaware of the danger which exists if they are used in a poorly ventilated area.

2. Garden and household sprays or chemicals should be locked out of reach of small children.

3. Children using glue with models should be taught the proper ventilation necessary when working with glue or lacquer.

4. Children should be taught about the danger involved from inhaling any foreign fumes and should be discouraged from experimenting with plastic or paper bags. Children should know that the resulting danger stems from their becoming ill after a lapse into a semi or unconscious state and they could drown in their own vomit.

5. Impress on children that chemicals are used to destroy or kill things which affect proper growth and development. e.g. garden and insect sprays.

B. EARLY MAN'S USE OF DRUGS

Man has used drugs in one form or another for thousands of years. The early use of drugs was associated with magic. Pain was once thought to be caused by demons. Pain relieving drugs were considered to have magical qualities. They cast out demons.

Aesculopius, the Greek god of Medicine, used a potion made from herbs to relieve pain.

Pioneera in general anaesthesia:
Crawford Long, 1842 -- Ether
Horace Wells (a Dentist), 1844 -- Laughing Gas
William Morton, 1846 -- Ether
J. Y. Simpson -- Chloroform

* Read <u>The Wonderful World of Medicine</u> Ritchie Calder

C. LASTING VALUE OF SOME EARLY DRUGS

Many drugs used by primitive people are still in use today. Curare used by natives on the tips of their arrows would paralyze the game they hunted. It is used today as a relaxant.

The Greeks used poisonous drugs to carry out capital punishment. Today, we have the gas chamber in some areas.

At the time of Hippocrates drugs were used as pain killers. Hippocrates is known as the Father of Modern Medicine. When a new Doctor graduates form Medical school, he recites the Hippocratic Oath which is a self dedication to the service of man. He promises to uphold certain prescribed ethics and not to engage in any discriminatory practices.

D. GREAT MEN IN THE FIELD OF SCIENCE AND MEDICINE

1. Hippocrates -- dispelled superstition that sickness was caused by gods. Taught about disease.

2. Wilhelm Röntgen of Wurzburg -- discovery of x-ray.

3. Antony Van Leeuvenhoek -- father of microbiology -- discovered microscope.

4. Louis Pasteur -- father of preventative medicine. Discovered pasteurization, bacteria, cure for rabies.

5. Joseph Lister -- father of modern surgery -- discovered antisepsis.

6. Robert Koch -- isolated tubercule bacillus.

7. Miracle drug makers -- Ehrlick, Domagk, Fleming

8. Frederick Banting -- Discovered insulin.

9. The Curies -- Discovered radium, responsible for Atomic Era.

   * Read Great Mer of Science; Arnold Dolin

10. Walter Reed -- isolated cause of Yellow Fever.

11. William Harvey -- discovered that the heast was a pump. He also wrote about the function of the heart and circulatory system.

    * Read Great Men of Science, Dolin.

12. Jonas Salk -- practically eradicated Polio.

13. Dr. Alexander Fleming -- discovered Penicillin.

II. THE PURPOSE OF DRUGS

A. Ancient cultures developed pain killing drugs from plants. Drugs used today which are derived from plants include:

1. Curare -- a muscle relaxant.

2. Digitalis -- Foxglove, blood vessel dilator.

3. Ephedrine -- a stimulant, constricts small arteries.

4. Penicillin -- anti-bacterial drug.

5. Quinine -- Cinchona bark, anti-malarial.

6. Reserpine -- Rauwolfia serpentina (shrub from India), a

Crude forms of some of these drugs were used long before the era of modern medicine.

B. The function of Drugs is to:

1. ease pain
2. clear up infection
3. increase appetite
4. curb appetite
5. decrease blood pressure
6. aid heart action
7. calm emotions
8. aid in sleep
9. give a feeling of well being
10. increase activity
11. kill or weaken germs which cause an illness

C. DRUGS: HELPFUL OR HARMFUL

1. Many of the early medicines had no effect on the ailment for which they were used. This is true even today. Some people take medicine which they think makes them feel better when in reality it may do more harm than good. Taken over a period of time it can become habit forming. People can also be poisoned by certain elements in drugs.

   *Read Federal Food, Drug and Cosmetic Act, Amended

2. Drugs may destroy some disease germs

   a. Sulfanilamides help to destroy disease causing bacteria.

   b. Drugs can control body reactions such as inflammatory conditions of Arthritis or the convulsions in Epilepsy.

   c. Pain killing drugs range from the commonly used Aspirin to the powerful addicting Opiates.

   d. Many well known drugs used for the common cold treat the symptoms rather than the disease.

3. Effects of Drugs

   a. Prompt drug therapy can minimize the incidence of disease. e.g. Compare incidence of bacterially caused communicable diseases in 1900 with today.

   b. Some diseases are under control due to modern day drug therapy. e.g. Tuberculosis, Pneumonia, Strep Infections etc.

   c. Many diseases are practically eradicated today. e.g. Smallpox, Diphtheria, Polio and hopefully Measles and Mumps will soon join the group.

   d. Great strides in the field of surgery such as open heart, transplants etc. would not be possible without modern day drugs.

   e. Mental Health problems as well as Senility are greatly helped with todays tranquilizing drugs.

III. COMMON DRUGS FOUND IN THE HOME

1. Aspirin, Bufferin, Empirin, Anacin (coal tar products)
2. Iodine, Peroxide, Alcohol, Merthiolate (liquid cleansing agents)
3. Vaseline, Ointments, Salves (soothing ointments)
4. Cough Syrups - Nose drops - lozenges - Aspir-gum - vitamins
5. Patent medicines (Dristan, Coricidin, Contact etc.)
6. Alka-Seltzer, Pepto-Bismol, Kao-Pectate etc. (for upset stomachs or diarrhea) neutralizer of acidity.
7. Prescription Drugs:
   a. Sulfa products
   b. Penicillin products
   c. Cortisone products
   d. Amephetamines (diet and pep pills)
   e. Heart or Blood medicine

Diseases of the respiratory system were once man's deadliest enemies. Although they are still dangerous they are under control being helped not only by medical knowledge and technology but also by better living conditions.

Sulfa drugs and antibiotics provide the Physician with an arsenal of powerful germ killers that help cure yesterdays "incurable diseases".

Aspirin was discovered by Charles Gerhart, an Alsation, about 100 years ago. It is the world's most widely used and abused drug. It is absorbed in the bloodstream within 10 minutes of the time taken. Most Aspirin deaths in the U.S. are those of children 1-4 years of age who get hold of large doses. Many people are allergic to Aspirin and other coal tar products.

Fifty years ago after it was discovered and shelved by Gerhart, the formula was again worked on by Eichengrum who made it a household word.

a. * Read pg. 132-137 <u>The Original Miracle Drug</u> in SCIENCE SCIENCE SCIENCE - Russel Hamilton and other books in bibliography.

b. Use transparency of medicine cabinet. Use matter of fact approach which is best in teaching children need for taking medicine. The taste sense of very young children is not so acute as to be disturbed by bad tasting substances. Stress the reading of labels on bottles for proper dosage; putting tops back on bottles securely and replacing bottles in medicine cabinet as

b. Cont.
well as keeping the cabinet locked. Although I personally have never seen a medicine cabinet come equipped with a lock it might be a good idea to motivate the students to regard its importance. It is a simple thing to install and they could take the idea home to parents who never before considered it.

IV. HARMFUL EFFECTS OF DRUG ABUSE

Prescription drugs can be purchased legally only by a Physician's prescription providing the Doctor holds a license for this purpose. People who are called "doctor" and cannot prescribe drugs include: Pharmacists, Chiropractors, Podiatrists, Optometrists or persons with a Professorship.

A drug is prescribed for an individual and should not be taken by another without the Doctor's permission. Effects could be harmful due to dosage, strength or sensitivity.

Non-prescription drugs are those which can be purchased without a Doctor's written order. If a label is not read properly or if directions are not followed accurately they can also be very harmful to the person taking them. Many will contain directions stating that if the condition persists for which the medicine is intended the individual should consult his Physician.

News Media, especially TV has been very influential in promoting the sales of numerous non-prescription drug products. Many people with chronic ills, real or imaginary, can be "taken in" by these promotional gimmicks which can produce more harm than good.

STORAGE

All medicines should be checked for need of refrigeration to prevent spoilage.

Medicine cabinets should be checked regularly. Unused prescriptions should be flushed down the toilet. Old medicines such as cough syrups, nose drops etc. should also be disposed of in a similar manner. This is the most effective and safest method of disposal.

USAGE

While prescribed amounts of a medicine can be helpful an overdose can be harmful. e.g. Overdcse of Aspirin is the leading cause of accidental deaths in children.

Parents should always supervise children regardless of the type of drug they are taking whether Aspirin or Vitamins.

Drugs should be accepted only from responsible adults; Physicians, Dentists, Parents or Relatives.

There are numerous incidents in school where children are carrying unauthorized drugs on their persons. Regardless of whether it's an Aspirin or a cough drop teachers must continue to stress periodically the dangers involved should this medication be consumed by the wrong person. This is the reason behind the School Health Law which prohibits dispensing medicine in school unless there is a written prescription from the Doctor accompanied by a note form the parent requesting that it be administered.

This information should be given to all new children when they register for school. It should also be sent home periodically as parents are inclined to forget or they don't consider the pill or lozenge harmful. People are apt to think that any drug which can be purchased without a Doctor's prescription is safe for everyone.

Education in this field is a continuous process.

DRUG USE AND ABUSE --- BIBLIOGRAPHY

Books in Broad Street Library

1. Great Men of Science -- Arnold Dolin

2. The Wonderful World of Medicine -- Ritchie Calder

3. Long Life to You --Leo Schneider

4. They Wanted the Real Answer -- Annabel Williams-Ellis
pg. 17 Disease in Animals, Can You Cure Our Cattle

5. Science Science Science -- Russel Hamilton
pg. 132-137 The Original Miracle Drug

6. Edward Jenner- The Story of Smallpox Vaccine -- Irmengrade Eberle

7. Madame Curie -- Alice Thorne

8. Your Health and You -- Charles Gramet
Chapter 14 (Decisions on use of Tobacco, Alcohol and Drugs)

Books in Nurses' Office

1. Doctors Tools -- Marguerite Lerner M.D.

2. Penny the Medicine Maker -- Sherrie Epstein

3. Karen Gets a Fever -- Miriam Gilbert

4. They Wouldn't Quit -- Gelfand and Patterson (Chapter 4)

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4/1/69